

ABSTRACT OF THE DISCLOSURE

A cobalt-containing film on a silicon-containing conductive region, and a titanium-rich capping layer is formed on cobalt-containing film. The atomic% ratio of titanium to other elements (if any) in the titanium-rich capping layer is more than one (1). The resultant structure is annealed so that cobalt of the cobalt-containing film and silicon of the silicon-containing conductive region react with each other to form a cobalt silicide film. When the formation of the cobalt-containing film is carried out at a high temperature, a diffusion restraint interface film is also formed.